

CLAIMS

We claim:

1. A process for forming a part having an integral feature comprising:

5 positioning a heated parison in a mold having opposed movable mold sections each having a face, said mold sections being closeable upon one another at said faces at a parting line, each of said mold sections having a sidewall including a female cavity having a predetermined shape of a part to be formed in said mold, at least one of said mold sections having an opening 10 in said female cavity extending through said sidewall, said opening being positioned in spaced relationship with said face, said mold including a movable pressing member positioned adjacent to said opening, said pressing member having a predetermined shape of a feature to be formed by said pressing member;

15 closing said mold sections around said parison along said parting line;

blowing a pressurized gas into said parison to expand said parison against said female cavities of said mold sections to form said part and to cause a portion of said parison to extend through said opening; and

20 moving said pressing member to compress said portion of said parison to form an integral feature on said part.

2. A part formed in accordance with the process of claim 1.

25 3. The process of claim 1, wherein said parison is formed of a thermoplastic material.

4. The process of claim 3, wherein said thermoplastic material is selected from the group consisting of acrylonitrile-butadiene-styrene (ABS), 30 high-density polyethylene (HDPE), low-density polyethylene (LDPE), linear low-density polyethylene (LLDPE), polycarbonate (PC), polyethylene terephthalate (PET), polypropylene (PP), polyphenylene ether (PPE),

polyvinylchloride (PVC), thermal plastic elastomer (TPE) and ultra high molecular weight polyethylene (UHMW-PE).

5. The process of claim 1, wherein said pressing member includes
5 two opposed pressing members.

6. A part formed in accordance with the process of claim 5.

7. The process of claim 1, wherein said pressing member includes
10 two opposed pressing members and a third pressing member being positioned substantially perpendicular to said two opposed pressing members.

8. A part formed in accordance with the process of claim 7.

15 9. The process of claim 1, wherein said predetermined shape of a feature is a flange.

10. A part formed in accordance with the process of claim 9.

20 11. The process of claim 1, wherein said predetermined shape of a feature is a hook.

12. A part formed in accordance with the process of claim 11.

25 13. A part comprising:
a plastic body having an integral feature formed by a process having a mold section with a face, said mold section having a sidewall including a female cavity having an opening extending through said sidewall,
30 said opening being positioned in spaced relationship with said face, said mold including a movable pressing member positioned adjacent to said opening,

said pressing member having a predetermined shape, said pressing member forming said integral feature when moved.

14. The part of claim 13, wherein said integral feature is a flange.

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15. The part of claim 13, wherein said integral feature is a hook.

16. Apparatus for use in a process for forming a part having an integral feature comprising:

10 a mold having two opposed mold sections each having a face, said mold sections being closeable upon one another at said faces at a parting line, each of said mold sections having a sidewall including a female cavity having a predetermined shape of a part to be formed in said mold, at least one of said mold sections having an opening in said female cavity
15 extending through said sidewall, said opening being positioned in spaced relationship with said face, said mold including a movable pressing member positioned adjacent to said opening, said pressing member having a predetermined shape of a feature to be integrally formed on said part by said pressing member.

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17. The apparatus of claim 16, wherein said pressing member includes two opposed pressing members.

18. The apparatus of claim 16, wherein said pressing member
25 includes two opposed pressing members and a third pressing member being positioned substantially perpendicular to said two opposed pressing members.

19. The apparatus of said claim 16, wherein said predetermined
30 shape of a feature is a flange.

20. The apparatus of claim 16, wherein said predetermined shape of a feature is a hook.